

## ABSTRACT OF THE DISCLOSURE

5           A small, compact optical scanning system with small aperture size requirements, wide field-of-regard and minimal color dispersion characteristics. The inventive scanning system and method provides for optical beam steering over a broad spectral band and over a wide field-of-regard. The inventive system includes a novel device for receiving an input wavefront of electromagnetic energy along a first axis and refracting  
10 the wavefront as an output wavefront along a second axis. The device is a unique form of a liquid crystal array which can be electrically manipulated to change the effective refractive index of each pixel. The index of refraction of the device varies in response to an applied voltage. The voltage is supplied by a microprocessor and/or a servo-control system. By changing the index, the incident phase front can be steered at an angle with  
15 respect to the first axis and otherwise manipulated according to the index variant pattern induced in the array. Accordingly, the output beam is steered in response to the applied voltage.